

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for identifying a compound that modulates taste signaling in taste cells, the method comprising the steps of:
 - (i) contacting the compound with a eukaryotic host cell or cell membrane which expresses a taste cell-specific ion channel subunit:
 - (a) having greater than about 70% 90% amino acid sequence identity to a polypeptide having a sequence selected from the group that consists of SEQ ID NO: 2, SEQ ID NO: 5, and SEQ ID NO: 8; and
 - (b) ~~specifically binding to polyclonal antibodies that specifically bind to a polypeptide having a sequence selected from the group that consists of SEQ ID NO: 2, SEQ ID NO: 5, and SEQ ID NO: 8~~ forming a functional ion channel; and
 - (ii) determining a functional effect of the compound upon a transmembrane ion flux of a predetermined ion, thereby identifying a compound that modulates taste signaling in taste cells.
2. (Original) The method of claim 1, wherein the functional effect is determined by measuring changes in intracellular ion concentration.
3. (Original) The method of claim 1, wherein the functional effect is determined by measuring changes in intracellular Ca^{++} .
4. (Original) The method of claim 1, wherein the changes in ion flux are measured by an assay selected from the group consisting of a voltage clamp assay, a patch clamp assay, a radiolabeled ion flux assay, or a fluorescence assay using ion sensitive dyes.

5. (Original) The method of claim 1, wherein the cell or cell membrane is attached to a solid substrate.

6. (Original) The method of claim 1, wherein the taste cell-specific ion channel subunit is from a mammal.

7. (Original) The method of claim 6, wherein the taste cell-specific ion channel subunit has an amino acid sequence selected from the group that consists of SEQ ID NO: 2, SEQ ID NO: 5, and SEQ ID NO: 8.

8. (Original) The method of claim 1, wherein the host cell is a human cell.

9. (Original) The method of claim 1, wherein the host cell is a HEK 293 cell.

10-11. (Canceled)

12. (Currently amended) A method of modulating taste signaling in taste cells of an individual, comprising

administering to an individual a pharmacologically effective amount of a composition that modulates taste signalling by an ion channel subunit

(a) having greater than about ~~70%~~ 90% amino acid sequence identity to a polypeptide having a sequence selected from the group that consists of SEQ ID NO: 2, SEQ ID NO: 5, and SEQ ID NO: 8; and

(b) ~~specifically binding to polyclonal antibodies that specifically bind to a polypeptide having a sequence selected from the group that consists of SEQ ID NO: 2, SEQ ID NO: 5, and SEQ ID NO: 8~~ forming a functional ion channel;

thereby modulating taste signalling in taste cells of said individual.

13. (Original) A method of claim 12, wherein said ion channel subunit has an amino acid sequence selected from the group that consists of SEQ ID NO: 2, SEQ ID NO: 5, and SEQ ID NO: 8.

14. (Original) A method of claim 12, wherein said individual is a mammal.

15. (Original) A method of claim 12, wherein said individual is a human.